

ABSTRACT

To provide a light source apparatus capable of striking a balance between miniaturization and high optical usable efficiency for concave mirrors as light generating means and light collecting means and further capable of emitting luminous fluxes in asymmetry to the light generating means and optical axes of the concave mirrors with high efficiency.

The light source apparatus consisting of a lamp 11, an ellipsoidal mirror 12 of collecting a part of light radiated from a light transmission plane 111b of the lamp 11, and a spherical mirror 13 of collecting another part of the light radiated from a light transmission plane 111a not collected by the ellipsoidal mirror 12 and reflecting it on the ellipsoidal mirror 12, in which a reflection plane of the ellipsoidal mirror 12 and the reflection plane of the spherical mirror 13 are in a form of non-rotation symmetry to an optical axis 14 connecting a focal position F1 corresponding to a source of luminescence of the lamp 11 to a focal position F2 of the light collected by the ellipsoidal mirror 12 respectively, a distance between the reflection plane of the spherical mirror 13 and the source of luminescence of the lamp 11 is shorter than the distance between the

source of luminescence and the focus of the light collected by the ellipsoidal mirror 12, and a part of the reflection plane of the ellipsoidal mirror 12 is formed around the optical axis 14.